CLAIMS

1) A method of determining the formation factor of an underground zone from drill cuttings taken to the wellbore surface, wherein a device including a cell (1) suited to contain cuttings and provided with electrodes connected to a device for measuring the conductivity of the cell content is used, the method comprising at least the following stages:

- cleaning said cuttings before setting them in the cell,

- filling the cell with a first electrolyte solution (A) of known conductivity (σ_A) so as to saturate the cuttings with this first electrolyte solution (A),

- measuring the global electrical conductivity (σ^*_A) of the cell with the content thereof,

- discharging the first electrolyte solution (A) remaining between the cuttings from the cell,

- filling the cell with a second electrolyte solution (B) of known conductivity (σ_B),

- determining the global electrical conductivity (σ^*_B) of the cell containing second electrolyte solution (B) and the cuttings saturated with first electrolyte solution (A),

- deducing therefrom the cuttings formation factor (FF) from the previous measurements.

2) A method as claimed in claim 1, wherein the cuttings are saturated with carbon dioxide by injection of this gas into the cell, prior to filling the cell with first electrolyte solution (A).

3) A method as claimed in any one of the previous claims, wherein the electrolyte solutions are brines of different concentrations.

4) A method as claimed in any one of the previous claims, wherein the concentration and the conductivity of first electrolyte solution (A) are higher than those of second solution (B).

5) A method as claimed in claim 1, wherein first electrolyte solution (A) remaining between the cuttings is discharged from the cell by gravity draining.

6) A method as claimed in any one of claims 1 or 5, wherein first electrolyte solution (A) is discharged by air injection.

7) A method as claimed in claim 6, wherein the pressure of the air injected is determined according to the pore size of the cuttings.

8) A method as claimed in claim 5, wherein gravity drainage is improved by capillary desorption.

9) A method as claimed in claim 8, wherein capillary desorption is carried out by means of a semipermeable membrane allowing passage of the first electrolyte solution but not of air.

10) A method as claimed in claim 1, wherein the formation factor is determined from the mean field theory.

11) A device for implementing the method as claimed in any one of claims 1 to 10, characterized in that it comprises:

- means of saturating the cuttings contained in the cell with CO_2,

- means intended for fast draining of the electrolyte solution contained between the cuttings.

12) A device as claimed in claim 11, wherein said draining means comprise a semipermeable membrane permeable to the brine and impermeable to air.